

United States Court of Appeals  
for the Federal Circuit

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AZURE NETWORKS, LLC AND  
TRI-COUNTY EXCELSIOR FOUNDATION,  
*Plaintiffs-Appellants,*

v.

CSR PLC AND CAMBRIDGE SILICON RADIO  
INTERNATIONAL, LLC,  
*Defendants-Appellees,*

AND

ATHEROS COMMUNICATIONS, INC. AND  
QUALCOMM INCORPORATED,  
*Defendants-Appellees,*

AND

BROADCOM CORPORATION,  
*Defendant-Appellee,*

AND

MARVELL SEMICONDUCTOR, INC.,  
RALINK TECHNOLOGY CORPORATION (Taiwan)  
AND RALINK TECHNOLOGY CORPORATION  
(USA),  
*Defendants-Appellees.*

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2013-1459

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Appeal from the United States District Court for the Eastern District of Texas in No. 11-CV-0139, Judge Michael H. Schneider.

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Decided: November 6, 2014

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MICHAEL E. JOFFRE, Kellogg, Huber, Hansen, Todd, Evans & Figel, P.L.L.C., of Washington, DC, argued for plaintiffs-appellants. With him on the brief was ANNA D. MAYERGOYZ. Of counsel on the brief were ERIC M. ALBRITTON and MICHAEL BENEFIELD, Albritton Law Firm, of Longview, Texas; and DANNY L. WILLIAMS and CHRISTOPHER N. CRAVEY, Williams, Morgan & Amerson, P.C., of Houston, Texas.

DOMINIC E. MASSA, Wilmer Cutler Pickering Hale and Dorr LLP, of Boston, Massachusetts, argued for all defendants-appellees. With him on the brief for defendant-appellee Broadcom Corporation were LOUIS W. TOMPROS, JASON H. LISS and DANA O. BURWELL. On the brief for defendants-appellees Atheros Communications, Inc., et al., were TIMOTHY TETER, LORI R. MASON and MATTHEW J. BRIGHAM, Cooley LLP, of Palo Alto, California. On the brief for defendants-appellees CSR PLC, et al., were JEFFREY E. OSTROW and JONATHAN C. SANDERS, Simpson Thacher & Bartlett LLP, of Palo Alto, California; and KERRY L. KONRAD, of New York, New York.

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Before REYNA, MAYER, AND CHEN, *Circuit Judges*.

Opinion for the court filed by *Circuit Judge* Chen.

Dissenting-in-part opinion filed by *Circuit Judge* Mayer.

CHEN, *Circuit Judge*.

Plaintiffs Azure Networks, LLC (Azure) and Tri-County Excelsior Foundation (Tri-County) sued CSR PLC, Cambridge Silicon Radio International, LLC, Atheros Communications, Inc., Qualcomm Inc., Broadcom Corp., Marvell Semiconductor, Inc., Ralink Technology Corp. (Taiwan), and Ralink Technology Corp. (USA) (collectively, Appellees) for alleged infringement of U.S. Patent No. 7,756,129 (the '129 patent). The district court granted the Appellees' motion to dismiss Tri-County for lack of standing, finding that Tri-County had effectively assigned Azure the '129 patent. Because we agree that the agreement between Tri-County and Azure constituted an effective assignment for purposes of standing, we affirm the dismissal of Tri-County.

The district court also construed the term "MAC address" in the '129 patent as "a device identifier generated by the hub device" and not, as Azure and Tri-County suggested, "an address that uniquely identifies a device or group of devices on a shared communication medium." Azure stipulated to a judgment of noninfringement under the district court's construction of "MAC address." Because the district court improperly construed the term, we vacate the judgment of noninfringement and remand.

## BACKGROUND

### A. The '129 Patent

The '129 patent, entitled "Personal Area Network with Automatic Attachment and Detachment," describes a network for wireless communications between a central hub device and a number of surrounding peripheral devices in close proximity with the hub device. The specification details the use of "a wireless personal area network [PAN] that permits a host device to communicate with a varying number of peripheral devices with minimal interference from neighboring networks." '129 pa-

tent, 2:66–3:3. To do so, the hub device “orchestrates all communication in the PAN,” including managing the timing of the network, allocating available bandwidth among the peripheral devices, and supporting the attachment, detachment, and reattachment of peripheral devices. *Id.* at 3:33–39. The hub and the peripheral devices communicate with one another over a predefined set of streams, or one-way communication links. *Id.* at 3:53–56.

Claim 14 is representative of the accused claims to a hub device:

14. A hub device for use within a personal area network, comprising:
  - circuitry, and
  - a transceiver in communication with the circuitry, the hub device configured to cause the transceiver to
    - i) send a message to indicate the availability of the hub device for peripheral device attachment,
    - ii) receive, from a first peripheral device, a message indicating the availability of the first peripheral device for communication with the hub device,
    - iii) send, to the first peripheral device, a signal including a *first peripheral device identifier*,
    - iv) receive, from the first peripheral device, a response,
    - v) send a hub response to the first peripheral device, and

vi) receive, from the first peripheral device, a second peripheral response including the first peripheral device identifier.

*Id.* at claim 14 (emphasis added).

The parties agree that “peripheral device identifier” in the asserted claims means “an element that identifies the peripheral device.” Joint Appendix (J.A.) 1446. Claim 43 depends from claim 14 and introduces the disputed “MAC address” term:

43. The hub device according to claim 14, wherein the hub device is configured such that a plurality of MAC addresses is capable of being used for identification in association with the first peripheral device.

’129 patent, claim 43.

At the time of invention, the conventional meaning of “MAC address,” *i.e.*, a Media or Medium Access Control address, was that it operated to uniquely identify a wireless device and could be generated in two ways—by the manufacturer of the device or by the local network. The district court concluded that the patentee acted as his own lexicographer by redefining the claimed “MAC address.” In so doing, the district court relied on the specification in two ways. First, a statement in the specification allegedly coined a new “MAC address” term that differs from the traditional MAC address as known to a person of ordinary skill in the art. That statement provided: “Each device is identified by a Media Access (MAC) address.” ’129 patent, 3:31–32. And second, various statements in the specification discussed the generation and assignment of the MAC address by the hub device. *See Azure Networks, LLC v. CSR PLC*, No. 6:11CV139 LED-JDL, 2013 WL 173788, at \*4 (E.D. Tex. Jan. 15, 2013). Based on these passages, it construed “MAC address” as “a device identifier generated by the hub device.” *Id.* at \*5.

### B. Tri-County's License to Azure

The '129 patent has passed through many hands of ownership, but it was eventually acquired by Azure, a Texas limited liability company located in the Eastern District of Texas. Azure then sought local charities to join in its patent enforcement activities. Ultimately, it partnered with Court Appointed Special Advocates (CASA) of Harrison County,<sup>1</sup> which formed Tri-County, a Texas non-profit corporation with its principal place of business in the Eastern District of Texas. In 2010, Azure donated multiple patents and patent applications, including the application that would issue as the '129 patent, to Tri-County.<sup>2</sup>

A few weeks after the donation, Tri-County and Azure entered into an "Exclusive Patent License Agreement" (hereinafter, Agreement), which transferred back to Azure a number of rights in the '129 patent. In particular, the Agreement granted Azure the exclusive, worldwide, transferable right to (i) make, have made, use, sell, offer to sell, import, and lease any products, (ii) use and perform any method, process, and/or services, and (iii) otherwise practice any invention in any manner under the '129 patent. It also granted Azure the "full right to enforce or and/or sublicense" the '129 patent, J.A. 1201 § 1.2, includ-

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<sup>1</sup> CASA of Harrison County is a member of the National Court Appointed Special Advocate Association and provides court-appointed advocacy for neglected and abused children in Harrison County. J.A. 454.

<sup>2</sup> The Appellees allege that Azure was motivated to donate the patents and patent applications to Tri-County in order to further establish venue in the Eastern District of Texas and to deduct from Azure's tax liability the value of its donation and portions of litigation proceeds owed to Tri-County. Appellees' Br. 8, 19; *see also* 26 U.S.C. § 170(m).

ing the authority to reach settlements without Tri-County's consent. Specifically, the Agreement provided that "Azure will have the exclusive right, but not the obligation, to maintain, enforce, or defend" the '129 patent, but has the "obligation to exercise good faith business judgment to monetize" the '129 patent, "including but not limited to licensing [it] to third parties." J.A. 1204 § 4.4. Azure also received the right to assign the entire Agreement or any of Azure's rights under the Agreement, without Tri-County's consent, to any Azure affiliate in connection with the sale of a material portion of any Azure business unit. And, finally, the Agreement gave Azure, not Tri-County, the exclusive right, but not the obligation, to control future prosecution or pay maintenance fees related to the '129 patent family.

In exchange, Tri-County retained the right to receive 33% of the proceeds from Azure's litigation or licensing activities for the first five years and 5% thereafter. Azure must pay Tri-County the respective percentages within thirty days after each calendar quarter in which Azure receives the proceeds. Tri-County also reserved "a royalty-free, personal, non-transferable, non-exclusive right" to practice the '129 patent and make Tri-County branded products. J.A. 1201-02 § 2.3. Additionally, Tri-County retained a right to terminate the Agreement if Azure breached its obligations or if Tri-County's obligations under the Agreement placed Tri-County's tax-exempt status at risk. Tri-County also reserved reversionary rights in the '129 patent once the Agreement expires. In particular, the Agreement automatically expires on March 27, 2018, with two years remaining on the patent term, but Tri-County has the option to renew in one-year increments if it notifies Azure at least thirty days in advance. In addition, Tri-County is obligated not to encumber the '129 patent in any way and to participate in litigation at Azure's request and in Azure's sole discretion.

Tri-County and Azure filed suit together against the Appellees, who thereafter sought to dismiss Tri-County from the case. They argued that the significant rights transferred to Azure under the Agreement constituted an effective assignment for purposes of standing, leaving Tri-County with no rights to sue as co-plaintiff. The district court agreed, finding that Tri-County's title in the patent and financial and reversionary interests therein were not sufficient to confer standing upon Tri-County. J.A. 34–35. On the district court's dismissal of Tri-County, Azure and Tri-County appealed, and we have jurisdiction under 28 U.S.C. § 1295(a)(1).

## DISCUSSION

### I. Standing

Standing is a matter of law that we review *de novo*. *Evident Corp. v. Church & Dwight Co., Inc.*, 399 F.3d 1310, 1313 (Fed. Cir. 2005). The Patent Act governs standing to sue for infringement, and it provides that only the patentee and his successors in title are entitled to bring a civil action for infringement. *Propat Int'l Corp. v. RPost, Inc.*, 473 F.3d 1187, 1189 (Fed. Cir. 2007) (citing 35 U.S.C. § 281); *Speedplay, Inc. v. Bebop, Inc.*, 211 F.3d 1245, 1249–50 (Fed. Cir. 2000); *Prima Tek II, L.L.C. v. A-Roo Co.*, 222 F.3d 1372, 1376–77 (Fed. Cir. 2000). A party is a patentee if it holds legal title to the patent, either by issuance or assignment. *Propat*, 473 F.3d at 1189; *Speedplay*, 211 F.3d at 1249–50.

Even if a patentee does not transfer legal title, it may transfer significant rights to the patent. When the patentee transfers rights, the “party that has been granted all substantial rights under the patent is considered the owner regardless of how the parties characterize the transaction that conveyed those rights.” *Speedplay*, 211 F.3d at 1250. “In that event, the transferee is treated as the patentee and has standing to sue in its own name.” *Propat*, 473 F.3d at 1189. And whichever party has all, or

substantially all, rights in the patent “alone has standing to sue for infringement.” *Morrow v. Microsoft Corp.*, 499 F.3d 1332, 1340 (Fed. Cir. 2007); *see also Alfred E. Mann Found. for Scientific Research v. Cochlear Corp.*, 604 F.3d 1354, 1358–59 (Fed. Cir. 2010) (“A patent owner may transfer all substantial rights in the patents-in-suit, in which case the transfer is tantamount to an assignment of those patents to the exclusive licensee, conferring standing to sue solely on the licensee.”). Therefore, when all rights or all substantial rights have been transferred, the transferee—and not the transferor—is the effective owner for purposes of standing. *See Speedplay*, 211 F.3d at 1250.

In patent licensor-licensee standing cases, we are typically confronted with one of two scenarios: (1) cases in which the exclusive licensee brings suit alone, requiring us to decide whether the license agreement conferred sufficient rights on the licensee for standing; or (2) cases in which the licensor brings suit alone, and we decide whether the licensor has transferred away enough rights to divest it of the right to sue. This is not the typical case. Here, both the licensor and the licensee have brought the suit together, and the accused infringer seeks dismissal of the licensor. Therefore, our inquiry in this case is two-fold: (1) whether Tri-County transferred all substantial rights under the ’129 patent to Azure, making Azure the effective owner; and *if so*, (2) whether Tri-County may nevertheless join in an infringement suit brought by the licensee, but now effective owner, Azure.

A

“To determine whether an exclusive license is tantamount to an assignment, we ‘must ascertain the intention of the parties [to the license agreement] and examine the substance of what was granted.’” *Mann*, 604 F.3d at 1359 (quoting *Mentor H/S, Inc. v. Med. Device Alliance, Inc.*, 240 F.3d 1016, 1017 (Fed. Cir. 2001)). The parties’ intent

alone is not dispositive. *See Vaupel Textilmaschinen KG v. Meccanica Euro Italia S.P.A.*, 944 F.2d 870, 876 (Fed. Cir. 1991) (finding agreement amounted to an assignment, even though entitled “exclusive license,” because it transferred substantial rights to licensee); *see also Speedplay*, 211 F.3d at 1250.

We must also consider a non-exhaustive list of rights for determining whether a licensor has transferred “all substantial rights” to the licensee, including: (1) the nature and scope of the right to bring suit; (2) the exclusive right to make, use, and sell products or services under the patent; (3) the scope of the licensee’s right to sublicense; (4) the reversionary rights to the licensor following termination or expiration of the license; (5) the right of the licensor to receive a portion of the proceeds from litigating or licensing the patent; (6) the duration of the license rights; (7) the ability of the licensor to supervise and control the licensee’s activities; (8) the obligation of the licensor to continue paying maintenance fees; and (9) any limits on the licensee’s right to assign its interests in the patent. *Mann*, 604 F.3d at 1360–61.

The parties do not dispute that the Agreement transferred to Azure an exclusive license to practice the ’129 patent. “[T]ransfer of the exclusive right to make, use, and sell products or services under the patent is vitally important to an assignment.” *Id.* at 1360. Also critical to our inquiry is that the Agreement granted Azure the exclusive right to enforce and defend the ’129 patent. In determining the nature of a transfer of rights, we have repeatedly recognized that a “key factor has often been where the right to sue for infringement lies.” *Aspex Eyewear, Inc. v. Miracle Optics, Inc.*, 434 F.3d 1336, 1342 (Fed. Cir. 2006); *see also Mann*, 604 F.3d at 1361 (recognizing that the “the most important consideration” in the analysis is “the nature and scope of the exclusive licensee’s purported right to bring suit, together with the

nature and scope of any right to sue purportedly retained by the licensor”).

It is not uncommon for a licensor to transfer to its licensee the exclusive right to enforce the patent. But significant to this case, Tri-County reserved no right to have control over, to veto, or to be notified of any of Azure’s licensing or litigation activities. Retaining control of these activities is also critical to demonstrating that the patent has not been effectively assigned to the licensee. *See, e.g., Propat*, 473 F.3d at 1192 (noting that retention of right to veto, be consulted about, or give consent to litigation decisions weighs in favor of finding agreement a license, not an assignment); *Mann*, 604 F.3d at 1362–63 (noting that right to have joint control over litigation or right to bring suit against alleged infringer if licensee refuses to bring suit would also indicate that licensor retained substantial rights); *Vaupel*, 944 F.2d at 875 (patentee retained only right to be informed about litigation and no right to control litigation decisions, suggesting an assignment of the patent); *Speedplay*, 211 F.3d at 1251 (holding that licensor retained no veto rights over licensee’s litigation activities and licensee’s complete control over litigation suggested that licensee obtained substantial rights).

Rather than retaining any control over litigation activities, Tri-County has a strict duty under the Agreement to “join Azure as a party and cooperate with Azure in any patent infringement suit, if, desirable to address a legal issue,” such as standing. J.A. 1204 § 4.4. Tri-County must join “at Azure’s request,” and after joinder, “Azure would maintain full and absolute control over any such patent infringement suit, including settlement of any related claims or causes of action.” *Id.* Tri-County’s joinder “would be limited solely to cooperation and that which is necessary to address the legal issue.” *Id.* As the district court recognized, nothing about this relationship structure indicates that Tri-County has control over any

aspect of litigation involving the '129 patent. Rather, it is clear that Azure is holding all the strings. In sum, Azure's exclusive right to sue, exclusive license, and freedom to sublicense are factors that strongly suggest that the Agreement constitutes an effective assignment.

Tri-County argues that other factors demonstrate that it retained enough rights such that whatever was transferred to Azure was something less than "all substantial rights." *First*, it points out that it has a right to receive a portion of the proceeds from the enforcement of the '129 patent. But that economic interest alone does not defeat a transfer of substantial rights in the face of the factors above that strongly indicate Azure's ownership. *See Propat*, 473 F.3d at 1191 ("To be sure, the fact that a patent owner has retained a right to a portion of the proceeds of the commercial exploitation of the patent . . . does not necessarily defeat what would otherwise be a transfer of all substantial rights in the patent.") (citing *Rude v. Westcott*, 130 U.S. 152, 162–63 (1889)).

*Second*, it argues that it retained the right to practice the '129 patent, including the right to make, sell, and use Tri-County-branded products covered by the patent. *See Fieldturf, Inc. v. Sw. Recreational Indus., Inc.*, 357 F.3d 1266, 1269 (Fed. Cir. 2004) ("[L]icensor's retention of a limited right to develop and market the patented invention indicates that the licensee failed to acquire all substantial rights."). But in this case, this factor has little force as Tri-County does not make or sell any products, J.A. 8976–81, and the evidence on record suggests that Tri-County will not make or sell any products in the future. While Tri-County continues to retain this right under the Agreement, its right is nonexclusive. We have held that a nonexclusive license confers no standing *on the licensee* because the licensee does not have a legally protected interest conferred by the Patent Act. *See Propat*, 473 F.3d at 1193–94 (holding that party has standing to sue if it "has a legally protected interest in the

patent created by the Patent Act,” and that bare licensee has no standing). That same logic applies even if it is the patent owner holding the nonexclusive right and the licensee holds the exclusionary rights. It is the licensee, Azure, who may freely sublicense other parties or, instead, tolerate infringement. So while infringement may cause Tri-County pecuniary loss, the Patent Act confers Azure, not Tri-County, with standing to bring suit for the infringement. *See Ortho Pharm. Corp. v. Genetics Inst., Inc.*, 52 F.3d 1026, 1031 (Fed. Cir. 1995) (holding that “[p]ractice of the invention by others may indeed cause [the nonexclusive licensee] pecuniary loss,” but “economic injury alone does not provide standing to sue under the patent statute”) (internal citations omitted).

*Third*, Tri-County contends that it has termination rights that limit whatever rights Azure has received under the Agreement. In particular, each party has the right to terminate the Agreement if the other party “substantially fails to perform or otherwise materially breaches any of the material terms, covenants or provisions of [the] Agreement.” J.A. 1207 § 7.8. Tri-County maintains that Azure must exercise good-faith judgment in monetizing the patents and report its efforts to Tri-County annually. Appellants’ Br. 27. Tri-County argues that it can then exercise its right to terminate the Agreement, and regain all rights conferred to Azure, if it determines that Azure’s performance under this “good faith” provision is unsatisfactory. Because Azure must enforce and license the ’129 patent and share any proceeds with Tri-County, Tri-County contends that its termination right enables it to monitor—and, thus, control—Azure’s fulfillment of its obligations. Reply Br. 6–7. According to Tri-County, this termination right indicates that it retained significant ownership interests in the ’129 patent. We do not agree.

We have held that termination rights conditioned upon the licensee’s “failure to perform up to the specified benchmarks” provide some indication that the licensor

retained ownership in the patent. *See Propat*, 473 F.3d at 1191–92. But the discussion of the termination right in *Propat* must be read in context. We explained that the *Propat* termination right, by itself, was not sufficient to show ownership; rather, we were persuaded by the showing of additional rights retained by the licensor, including one of the most crucial ones—the right to control the litigation and licensing decisions:

In addition, [the licensor] retains an economic interest in the patent and a substantial measure of control over decisions affecting the patent rights. It enjoys an equity interest in the proceeds of licensing and litigation activities, a right to notice of licensing and litigation decisions and the right to veto such decisions as long as the veto power was not exercised unreasonably, and the unrestricted power to bar [the licensee] from transferring its interest in the patent to a third party. In no case has this court held that a patentee who retains such broad and wide-ranging powers with respect to a patent has nonetheless transferred “all substantial rights” in the patent.

*Id.* at 1191. In *Propat*, the licensor retained the responsibility to maintain the patent, the right to notice of the licensee’s decision-making, the right to veto licensing and litigation decisions, the right to veto any transfer of the licensee’s rights, in addition to the right to terminate the license if the licensee failed to meet certain benchmarks. *Id.* at 1190–91. That is not the case here.

Tri-County’s right to monitor whether Azure breaches any of its obligations does not amount to the type of control that we have found indicative of ownership in prior cases. Tri-County does not have the right to veto any of Azure’s decisions, and Azure is not obligated to obtain Tri-County’s consent before acting. In fact, Tri-County does not even have the right to receive notice

before Azure acts. Nor does Tri-County have the obligation to maintain the patent; maintenance lies with Azure, at Azure's option. It is true that Tri-County may terminate the Agreement if Azure breaches its obligations, but Tri-County does not explain—nor can we envision—how a general good-faith requirement that inures to the financial benefit of *both* parties, with nothing more, would allow Tri-County to trump Azure's express and unilateral rights and exert *control* over Azure's licensing or litigation decisions.

As an additional argument, Tri-County points to its right to terminate the Agreement if it incurs unwanted tax liabilities as a basis for demonstrating that it retained ownership. But if Tri-County terminates the Agreement for this reason, Azure has the option to re-acquire the '129 patent for \$305,000. J.A. 1207–08. Therefore, Tri-County's termination under this provision does not outright deprive Azure of controlling the patent. Tri-County's termination right under this provision loses force as a factor suggesting it has substantial rights over the '129 patent.

*Fourth*, Tri-County contends that, in addition to its termination rights, the Agreement automatically terminates on March 27, 2018—two years before the patent expires—leaving Tri-County a two-year reversionary interest in the patent. Although Tri-County may optionally extend the Agreement in one-year increments, it argues that, in general, agreements that terminate before patent expiration leave the licensor with a substantial interest in the patent.

In *Aspex Eyewear*, we addressed the effect of a hard termination date, *i.e.*, a date beyond which the license cannot be renewed and all rights revert back to the licen-

sor.<sup>3</sup> The termination clause in that case provided that the license would expire in 2003, but it gave the licensee one option to extend the term another three years. 434 F.3d at 1338 n.2. The license would finally terminate in 2006, still leaving eleven more years remaining on the patent term, which was to expire in 2017. *Id.* at 1338 & n.4.

The rights distributed between the licensee and licensor in *Aspex Eyewear* were similar to the distribution of rights between Tri-County and Azure. Like Azure, the licensee in *Aspex Eyewear* held the exclusive right to practice the invention, the right to bring suit for infringement, and the unrestricted right to sublicense, while the licensor, like Tri-County, retained no right to make litigation or licensing decisions. We acknowledged that this distribution strongly suggested the license was an effective assignment for purposes of standing. *Id.* at 1342. Yet the hard termination date confirmed to us that the licensor retained ownership of the patent because the licensor would regain all the rights transferred to the licensee with a majority of the patent term remaining:

It was not a situation in which [the licensee] had an exclusive license with all substantial rights that was only defeasible in the event of a default

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<sup>3</sup> Tri-County and the Appellees dispute whether the discussion of a hard termination date in *Prima Tek II* should guide the analysis. In that case, however, we declined to express any opinion on the significance of hard termination dates. *See* 222 F.3d at 1378 (“Significantly, the agreement does not specify a ‘hard’ termination date beyond which the license cannot be renewed, and we express no opinion as to the effect of such a provision on a licensee’s standing to sue.”) (emphasis added) (internal citation omitted). *Prima Tek II*’s discussion of reversionary rights therefore is inapplicable.

or bankruptcy, or some other condition subsequent. By having rights for only a limited portion of the patent term, it simply did not own the patent. It was merely an exclusive licensee without all substantial rights. The '747 patent was never assigned; it was exclusively licensed for only a fixed period of years, which does not meet the all substantial rights standard. Thus, we hold that the Contour/Chic agreement was a license, not an assignment, and [the licensor] was the owner of the patent when the complaint was filed and entitled to sue.

*Id.* at 1342–43 (footnote omitted). We distinguished clauses, like the one in *Prima Tek II*, that lacked a definite termination date because “the term of the agreement existed potentially for the life of the respective patents, and it was presumable that the transferred patent would never return to the assignor.” *Id.* at 1343.

The termination clause in Tri-County’s Agreement does not have the same kind of hard termination date as in *Aspex Eyewear*. Instead, the Agreement states that it “shall end . . . on the termination date of 03/27/2018 or at the end of each year thereafter, unless [Tri-County] notifies Azure at least 30 days in advance of its intent to renew the agreement for an additional year.” J.A. 1207 § 7.8. We expressly noted in *Aspex Eyewear* that this type of renewal cycle presumes that the patent “would never return to the assignor.” 434 F.3d at 1343. We also note that eleven years remained on the patent’s term in *Aspex Eyewear* following the expiration date of the agreement with no indication of the likelihood of extending or renewing the license after the first option to extend. In contrast, only two years remain on the ’129 patent term following the March 27, 2018 termination date. Such short patent term life following expiration, coupled with the rolling renewal cycle that can extend to the end of the patent’s term, provides another indicator that Tri-County

transferred all substantial rights to the patent. Therefore, the district court was correct in concluding that the reversionary right in the Agreement does not suggest, as Tri-County contends, that Tri-County retained ownership of the patent.

After weighing all the factors, we agree with the district court that Azure acquired significant rights under the '129 patent, including the right to enforce, to license, to control the licensing and litigation, to sublicense, to practice exclusively, and to maintain the patent. Tri-County's economic interests, limited termination rights, and unfixed reversionary interest with only a very limited amount of time remaining on the patent do not demonstrate that it retained ownership. As the district court found, the balance of factors establishes that Tri-County transferred all substantial rights in the '129 patent to Azure, making Azure the effective owner for purposes of standing.

## B

Azure and Tri-County argue that even if the Agreement constitutes an assignment for purposes of standing, Tri-County would still be able to join suit with Azure. They maintain that Tri-County still has interests in the '129 patent that are in jeopardy, including its reversionary interest and its interest in receiving proceeds from enforcing the patent. Appellants' Br. 35–36. Having an interest in the litigation, however, does not confer standing. To bring or join suit, Tri-County must have “*exclusionary rights and interests created by the patent statutes.*” *Morrow*, 499 F.3d at 1340 (emphasis added).

Parties who “hold less than all substantial rights to the patent *and* lack exclusionary rights under the patent statute” do not have standing. *Id.* at 1340–41 (emphasis added). This lack of standing “cannot be cured by adding the patent title owner to the suit.” *Id.* at 1341; *Propat*, 473 F.3d at 1193–94 (“By contrast, a bare licen-

see . . . lacks standing to sue third parties for infringement . . . . A bare licensee cannot cure its lack of standing by joining the patentee as a party.”).

As discussed above, Tri-County transferred all substantial rights in the '129 patent to Azure, including all exclusionary rights. Tri-County serves effectively as a nonexclusive licensee. The district court properly concluded that Tri-County lacks standing to bring suit, but more importantly, to even join the suit. Because Tri-County does not have any exclusionary rights under the '129 patent, it lacks standing to join the suit as a co-plaintiff. Tri-County's standing deficiency cannot be cured by adding Azure to the suit. *See Morrow*, 499 F.3d at 1343 (“To demonstrate entitlement to join as a *co-plaintiff* [a party] must have the right to exclude others from making, using or selling the invention in the United States.”). We therefore affirm the district court's dismissal of Tri-County.

## II. “MAC Address”

Claim construction is a matter of law that we review *de novo*. *Lighting Ballast Control LLC v. Philips Elecs. N. Am. Corp.*, 744 F.3d 1272 (Fed. Cir. 2014) (en banc). There is a “heavy presumption” that claim terms “carry their accustomed meaning in the relevant community at the relevant time.” *Home Diagnostics, Inc. v. LifeScan, Inc.*, 381 F.3d 1352, 1355 (Fed. Cir. 2004). The district court, however, construed “MAC address” narrowly as a local address generated by the hub, even though the ordinary and customary meaning included either local or universal MAC addresses. Departure from the ordinary and customary meaning is permissible only when the patentee has acted as his own lexicographer or disavowed claim scope in the specification or during the prosecution history. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1316 (Fed. Cir. 2005) (en banc). The heavy presumption that “MAC

address” carries its well-established meaning in the relevant industry has not been overcome here.

The parties do not meaningfully dispute the ordinary and customary meaning of a “Media Access Control” or “Medium Access Control” address (commonly referred to as a MAC address) to the relevant community at the time of invention. MAC addresses have long been used to identify various wireless devices. Industry literature and dictionaries at the time of invention, which are not disputed, consistently define MAC addresses as unique identifiers. For example, the dictionary of the Institute of Electrical and Electronic Engineers (IEEE) defined “MAC address” as “[a]n address that identifies a particular medium access control (MAC) sublayer service access point (SAP).” THE NEW IEEE STANDARD DICTIONARY OF ELECTRICAL AND ELECTRONICS TERMS 755 (5th ed. 1993); STEVEN M. KAPLAN, WILEY ELECTRICAL & ELECTRONICS ENGINEERING DICTIONARY 459 (John Wiley & Sons 2004) (defining MAC address as “Media Access Control address,” that is, “a hardware address which uniquely identifies each physical connection”). The Appellees’ own construction acknowledges that MAC addresses are “device identifiers.”

The claims use “MAC address” consistently with the well-understood industry meaning: to identify a unique device. Claim 2 recites that the “first peripheral device identifier is based at least in part on a MAC address of the first peripheral device.” Claim 43 recites that the “plurality of MAC addresses [are] capable of being used for identification in association with the first peripheral device.” Nothing in the claims displaces the customary meaning of “MAC address.” The specification also refers to the term as an identifier for a device. ’129 patent, 3:60–64 (“The Hub 110 uses MAC addresses to identify itself and the PEAs [Personal Electronic Accessory] 120. The Hub 110 uses its own MAC address to broadcast to all PEAs 120. The Hub 110 might also use MAC address-

es to identify virtual PEAs within any one physical PEA 120.”).

At the time of invention, MAC addresses could be assigned either universally, *i.e.*, the manufacturer of the device creates the unique identifier for the device, or locally, *i.e.*, a network device, like the hub device of the '129 patent, creates the unique identifier for a given device, like the peripheral devices in the '129 patent. J.A. 1605, IEEE Standard for Local and Metropolitan Area Networks: Overview and Architecture 21 (IEEE Mar. 8, 2002) (within the 48-bit MAC address there is a “Universally or Locally administered (U/L) address bit . . . [which] indicates whether the address has been assigned by a local or universal administrator”) (emphasis added).<sup>4</sup> The

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<sup>4</sup> See, e.g., FRANK HARGRAVE, HARGRAVE’S COMM’NS DICTIONARY 313 (IEEE Press 2001) (defining MAC as an “acronym for Medium Access Control” and MAC address as a “48 bit number unique to each network interface card (NIC). Generally, the number is programmed into the NIC *at the time of manufacture*; hence, it is LAN and location independent. . . . Also called a hardware address, MAC name, physical address, or universal address.”) (emphasis added); NEWTON’S TELECOM DICTIONARY 450 (CMP Books Feb. 2002) (equating MAC address with Medium Access Control Address and defining as “a 48-bit number, formally known as an EUI-48 (Extended Unique *Identifier*-48) . . . The MAC Address is programmed into the card, *usually at the time of manufacture*”) (emphasis added). From these references, the dissent gleans inconsistent definitions, which do not exist. See Dissenting Op. 5–6. That MAC addresses were *usually* programmed into a device at the time of manufacture means that sometimes they were not. The IEEE Standard for Local and Metropolitan Area Networks specification simply buttresses that point. The

relevant dispute here is whether the claimed “MAC address” should be read narrowly, as a device identifier that can *only* be generated locally by the hub device, thereby excluding the “universal” type MAC address created by the manufacturer of the device. We see no reason to limit this established term of art to only hub-generated addresses. The claims of the ’129 patent do not specify whether the “MAC address” is generated locally or universally. The specification refers to the phrase “Media Access (MAC) address,” and not “Media Access *Control* (MAC) address.” Based on this single reference, the district court concluded that the patentee “coin[ed] a new term” distinct from a standard MAC address, which in turn was limited to hub-generated addresses. *Azure*, 2013 WL 173788, at \*4. We disagree. For a patentee to act as his own lexicographer and give a term something other than its well-established meaning, he must “clearly set forth a definition of the disputed term.” *CCS Fitness, Inc. v. Brunswick Corp.*, 288 F.3d 1359, 1366 (Fed. Cir. 2002). The lexicography must appear with “reasonable clarity, deliberateness, and precision sufficient to narrow the definition of the claim term in the manner urged.” *Abbott Labs. v. Syntron Bioresearch, Inc.*, 334 F.3d 1343, 1355 (Fed. Cir. 2003).

Through the single, cursory use of “Media Access (MAC) address”—dropping the word “Control”—the specification did not re-coin an established term of art by redefining it to have a narrower definition than the traditional MAC address. Dropping the word “Control” was

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prior art cited on the face of the ’129 patent uses MAC addresses consistently with the IEEE specification, as either universal or local addresses. *See, e.g.*, PCT Application WO 00/68811, 5:7–10 (published Nov. 16, 2000) (describing a universal MAC address); U.S. Patent No. 6,570,857, 4:30–35 (describing a local MAC address).

not unknown to those of ordinary skill in the art, based on other technical literature. *See, e.g.*, J.A. 1970–71, SUSAN YOUNG & DAVE AITEL, THE HACKER’S HANDBOOK, THE STRATEGY BEHIND BREAKING INTO AND DEFENDING NETWORKS (CRC Press 2004) (referring to “Media Access (MAC) address” as a “unique address assigned to a networking device upon its creation by the manufacturer”); J.A. 1978, Implementing QoS, *available at* <http://vonage.nmhoy.net/qos.html> (last visited Oct. 7, 2014) (“MAC Address prioritizes network devices by their Media ACcess Address (MAC Address.”). This one indicium therefore is simply not a strong enough suggestion that the inventor intended to displace a well-established term of art. *See Ancora Techs., Inc. v. Apple, Inc.*, 744 F.3d 732, 738 (Fed. Cir. 2014) (holding that specification does not set out redefinition for “volatile memory” term and its clear ordinary meaning cannot be overcome “by a few passing references that do not amount to a redefinition or disclaimer”). This is especially so because “MAC address” has a “clear, settled, and objective” meaning to a person of ordinary skill in the art. *See id.* at 737 (finding that term “volatile memory” has a “clear, settled, and objective” meaning that leaves relevant public with firm understanding of scope “unless something exceptional sufficiently supplants that understanding”). And when read in context, it becomes clear that that “Media Access (MAC) address” in the specification has the same meaning as that of a traditional MAC address: it is a device identifier. ’129 patent, 3:31–32 (“Each device is *identified* by a Media Access (MAC) address.”) (emphasis added).

In reading the hub-generation-only limitation into the claims, the district court also pointed to the parts of the specification referring to the hub device generating and assigning the newly coined “MAC address” to the peripheral devices. *Azure*, 2013 WL 173788, at \*4–5; *see, e.g.*, ’129 patent, 11:2–3 (“The Hub 110 then assigns a MAC address to the PEA . . . ”). Failing to find a reference in

the specification to manufacturer-generated MAC addresses, it concluded that the claimed “MAC address” must be hub-generated.

Although there is no specific reference to universally generated MAC addresses in the specification, using a term the same way in all disclosed embodiments is not by itself sufficient to redefine a term of art. *See Aventis Pharma S.A. v. Hospira, Inc.*, 675 F.3d 1324, 1330 (Fed. Cir. 2012); *CCS Fitness*, 288 F.3d at 1366. The specification “must have sufficient clarity to put one reasonably skilled in the art on notice that the inventor intended to redefine the claim term.” *Merck & Co. v. Teva Pharms. USA, Inc.*, 395 F.3d 1364, 1370 (Fed. Cir. 2005); *see also Innova/Pure Water, Inc. v. Safari Water Filtration Sys.*, 381 F.3d 1111, 1117 (Fed. Cir. 2004) (“[E]ven where a patent describes only a single embodiment, claims will not be read restrictively unless the patentee has demonstrated a clear intention to limit the claim scope.”) (internal quotation omitted).

The statements in the specification relied upon by the district court neither define “MAC address” nor exclude universal addresses. The specification does not state that a hub-generated MAC address is the actual invention itself or that hub-generation is a critical feature. *See SunRace Roots Enter. Co. v. SRAM Corp.*, 336 F.3d 1298, 1305 (Fed. Cir. 2003) (discussing cases limiting claim language because feature “described as essential to the invention” but declining to do so when the specification “does not state that the cam is the actual invention itself”).

Moreover, nothing in the specification or the prosecution history shows an attempt to distinguish over prior art for lacking a hub-generated MAC address. *See SciMed Life Sys., Inc. v. Advanced Cardiovascular Sys., Inc.*, 242

F.3d 1337, 1343–44 (Fed. Cir. 2001); *Alloc, Inc. v. Int'l Trade Comm'n*, 342 F.3d 1361, 1371 (Fed. Cir. 2003).<sup>5</sup>

For these reasons, we adopt Azure's proposed construction of "MAC address" as "an address that uniquely identifies a device or group of devices on a shared communication medium." Accordingly, we vacate the judgment of noninfringement and remand for further proceedings, consistent with this opinion.

**AFFIRMED-IN-PART, VACATED-IN-PART, AND  
REMANDED**

**COSTS**

Each party shall bear their own costs.

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<sup>5</sup> The district court's construction would also result in the hub device generating its own MAC address, in addition to generating the MAC addresses for the peripheral devices. Although the specification discusses embodiments where the hub generates the MAC address for each peripheral device, it is entirely silent on the source of the hub device's own MAC address.

United States Court of Appeals  
for the Federal Circuit

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AZURE NETWORKS, LLC AND  
TRI-COUNTY EXCELSIOR FOUNDATION,  
*Plaintiffs-Appellants,*

v.

CSR PLC AND CAMBRIDGE SILICON RADIO  
INTERNATIONAL, LLC,  
*Defendants-Appellees,*

AND

ATHEROS COMMUNICATIONS, INC. AND  
QUALCOMM INCORPORATED,  
*Defendants-Appellees,*

AND

BROADCOM CORPORATION,  
*Defendant-Appellee,*

AND

MARVELL SEMICONDUCTOR, INC.,  
RALINK TECHNOLOGY CORPORATION (Taiwan)  
AND RALINK TECHNOLOGY CORPORATION  
(USA),  
*Defendants-Appellees.*

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2013-1459

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MAYER, *Circuit Judge*, dissenting-in-part.

I agree with the court's thorough and well-reasoned analysis of the standing question, but respectfully dissent from Section II of the court's opinion. The specification of U.S. Patent No. 7,756,129 (the "129 patent") repeatedly and unambiguously indicates that the term "Media Access (MAC) address" refers to an address that is assigned to a peripheral device by a hub device. The patent neither contemplates nor enables any other method of network communication. The court offers no plausible justification for disregarding the unequivocal disclosure in the specification and dramatically expanding the definition of "Media Access address" to cover any address that uniquely identifies a device on a shared communication system. The decision to jettison the trial court's claim construction is predicated almost exclusively on a purported industry definition of the term "Media Access *Control* address," but that term is found nowhere in the '129 patent.

## I.

Over and over again, the '129 patent makes clear that a "Media Access (MAC) address" is an address assigned to a peripheral device by a hub device. The patent explains that "a single [h]ub device" communicates with multiple peripheral devices, *id.* col.3 l.28, and "orchestrates all communication in the [Personal Area Network]," *id.* col.3 l.33. Each peripheral device is assigned a "Media Access (MAC) address," *id.* col.3 l.32, by the hub device when it becomes part of the communications network, *id.* col.11 ll.50-52. The Summary of the Invention describes a single method by which peripheral devices are attached to the network, a method that requires that the hub device assign a Media Access address to each peripheral device. *Id.* col.1 ll.57-61 (explaining that "[t]he unattached peripheral device . . . receives a new address from the hub device . . . and communicates with the hub device using the new address"); *id.* col.2 ll.8-14 (explaining that the

unattached peripheral device “receiv[es] a new address from the hub device” and is “attach[ed] to the network using the new address”). The specification goes on to repeatedly describe a system in which the hub device assigns an address to each peripheral device. *Id.* col.11 ll.2-4 (“[T]he [h]ub . . . assigns a MAC address to the [peripheral device].”); *id.* col.11 ll.50-54 (“When the [h]ub successfully receives the attach-request from the [peripheral device], it assigns a MAC address to the [peripheral device].”); *id.* col.11 ll.55-60 (“The [h]ub sends the new MAC address in an attach-assignment message to the now-identified [peripheral device].” (diagram reference numbers omitted)); *id.* col.12 ll.31-34 (“The [peripheral device] waits for an attach confirmation from the [h]ub using the new MAC address . . . and, upon receiving it, sends a final acknowledgement to the [h]ub.” (diagram reference numbers omitted)). Without exception, the ’129 patent uses the term “MAC address” to refer to an address that is generated by the hub device. Nothing in the specification contemplates that a Media Access address will be assigned to a peripheral device at the time it is manufactured. Instead, as the district court correctly concluded, “what is defined and consistently disclosed” in the ’129 patent “is a MAC address that originates with the hub device.” *Azure Networks, LLC v. CSR PLC*, No. 11-CV-0139, slip op. at 2 (E.D. Tex. May 17, 2013).

The specification typically provides “the primary guide to claim interpretation.” *ArcelorMittal France v. AK Steel Corp.*, 700 F.3d 1314, 1320 (Fed. Cir. 2012); *see also Retractable Techs., Inc. v. Becton, Dickinson & Co.*, 653 F.3d 1296, 1305 (Fed. Cir. 2011) (“It is axiomatic that the claim construction process entails more than viewing the claim language in isolation. Claim language must always be read in view of the written description.”). Here, because the specification repeatedly makes clear that the term “Media Access (MAC) address” refers to an address assigned by a hub device—and discloses no other method

for network communication—the court has no warrant to vastly expand the term to cover any address that uniquely identifies a device on a network. *See Saffran v. Johnson & Johnson*, 712 F.3d 549, 560 (Fed. Cir. 2013) (explaining that a claim term should be construed in accordance with its “[e]xtensive, consistent usage in the specification”); *Kinetic Concepts, Inc. v. Blue Sky Med. Grp., Inc.*, 554 F.3d 1010, 1019 (Fed. Cir. 2009) (refusing to construe the term “wound” to cover fistulae because such a construction would “expand the scope of the claims far beyond anything described in the specification”). “Although the specification need not present every embodiment or permutation of the invention and the claims are not limited to the preferred embodiment of the invention, neither do the claims enlarge what is patented beyond what the inventor has described as the invention.” *Netword, LLC v. Centraal Corp.*, 242 F.3d 1347, 1352 (Fed. Cir. 2001) (citation omitted).

## II.

Three fundamental errors infect the court’s decision to expand the ’129 patent to cover an invention that the patentees neither claimed nor described. First, the court states that “[t]he parties do not meaningfully dispute the ordinary and customary meaning of a ‘Media Access Control’ or ‘Medium Access Control’ address (commonly referred to as a MAC address) to the relevant community at the time of the invention.” *Ante* at 20. This is incorrect. The Defendants-Appellees vigorously—and persuasively—contend that Azure Networks, LLC (“Azure”) never established that, at the time of the claimed invention, there was a standard industry definition of the term “MAC address” which necessarily encompassed both addresses assigned locally and at the time of manufacture. To the contrary, Azure, in its opening claim construction brief, “cited and quoted two references that make clear that one of ordinary skill would understand MAC addresses as pre-programmed identifiers, not locally

assigned addresses.” Br. of Defendants-Appellees at 39-40.

Azure’s problem is one of proof. If it wanted to enlarge its claims far beyond anything described in the specification, it had the burden of coming forward with evidence demonstrating not only that there was a common industry definition of the term “MAC address,” but that that definition necessarily encompassed both addresses assigned at the time of manufacture and by a local network. The simple fact, however, is that Azure failed to adduce any such evidence. Indeed, its references provide divergent definitions of the term. Azure relies heavily on an Institute of Electrical and Electronics Engineers (“IEEE”) specification which indicates that MAC addresses can be assigned either locally or at the time of manufacture. *See* J.A. 1604-07. Other references Azure provided to the trial court, however, indicate that a MAC address is typically a 48-bit number assigned to a network interface card at the time of manufacture, *not* an address assigned to a peripheral device by a local hub device as described in the ’129 patent. *See* HARGRAVE’S COMM’NS DICTIONARY 313 (2001) (A “MAC address” is “[a] 48-bit number unique to each network interface card (NIC). Generally, the number is programmed into the NIC *at the time of manufacture*; hence, it is LAN and location independent.” (emphasis added)); NEWTON’S TELECOM DICTIONARY 450 (2002) (A “MAC address” is a “Medium Access Control Address” or a “MAC name” that “traditionally is in the form of a 48-bit number, formerly known as an EUI-48 (Extended Unique Identifier-48), which is unique to each LAN (Local Area Network) NIC (Network Interface Card). The MAC address is programmed into the card, *usually at the time of manufacture*.” (emphasis added)). The fact that Azure’s own references provide inconsistent definitions of the term “MAC address” belies its contention that there was a “standard industry definition,” Br. of Plaintiffs-Appellants

at 43, of the term sufficient to overcome its “[e]xtensive, consistent usage,” *Saffran*, 712 F.3d at 560, in the specification. *See Renishaw PLC v. Marposs Societa’ Per Azioni*, 158 F.3d 1243, 1250 (Fed. Cir. 1998) (emphasizing that “a common meaning, such as one expressed in a relevant dictionary, that flies in the face of the patent disclosure is undeserving of fealty”).

Apparently recognizing that Azure’s claim construction argument rests on a very feeble evidentiary foundation, the court creates out of whole cloth its own definition of “Media Access address.” In the court’s view, a Media Access address is anything that identifies a device on a network, and it has ferreted out two dictionary definitions that it believes support its definition of the term. *See ante* at 20. These dictionary definitions are not part of the record, however, and the Defendants-Appellees have had no opportunity to challenge them. Even more fundamentally, the one cited definition that could even arguably support this court’s exceedingly broad claim construction—the one stating that a “Media Access Control address” is “a hardware address which uniquely identifies each physical connection,” *ante* at 20—pertains to a term found nowhere in the ’129 patent.

Language matters. The definition upon which the court’s claim construction is predicated is a definition of a “Media Access *Control* address,” not a “Media Access address,” the term used in the ’129 patent. See ’129 patent col.3 ll.31-32 (“Each device is identified by a Media Access (MAC) address.”). The fact that the patentees dropped the word “control” from their definition of the acronym “MAC” is highly significant. It indicates that they were not relying on any purported industry definition of the acronym, but were instead using the term “Media Access (MAC) address” consistently with the disclosure in the specification to refer to an address assigned to a peripheral device by a hub device.

Indeed, any doubt as to whether the meaning of the term “MAC address” as used in the ’129 patent was intended to be different from any purported industry understanding of the term is resolved by reference to documents the inventors themselves provided. The ’129 patent was developed in the course of the inventors’ work on a project known as “BodyLAN.” On six separate occasions, the BodyLAN specification uses the phrase “Media ACcess,” capitalizing both the “A” and the first “C” in “Access.” *See* J.A. 1664, 1686, 1691, 1701. The fact that the inventors capitalized the “M,” the “A,” and the “C,” in the term “Media ACcess” indicates that the letter “C” in the acronym “MAC” refers to the second letter in the word “access” and not to the word “control” in a media access control address. *See Computer Docking Station Corp. v. Dell, Inc.*, 519 F.3d 1366, 1374 (Fed. Cir. 2008) (emphasizing that “repeated and definitive remarks in the written description” can restrict a particular claim term); *Renishaw*, 158 F.3d at 1250 (“[W]here there are several common meanings for a claim term, the patent disclosure serves to point away from the improper meanings and toward the proper meaning.”). Significantly, the BodyLAN specification, just like the specification of the ’129 patent, makes clear that a “Media ACcess” address originates with the hub device. *See* J.A. 1701.

Finally, even assuming *arguendo* that the term “MAC address” is ambiguous and could potentially be construed to cover addresses assigned to a device at the time of manufacture, such a construction would render the asserted claims invalid. *See Free Motion Fitness, Inc. v. Cybex Int'l, Inc.*, 423 F.3d 1343, 1349 n.4 (Fed. Cir. 2005) (explaining that a court can “construe claims to preserve their validity when after applying all the available tools of claim construction . . . the claim is still ambiguous” (citations and internal quotation marks omitted)). The ’129 patent describes a system in which a hub “orchestrates all communication” in the network, ’129 patent col.3 l.33, by

creating MAC addresses and assigning them to peripheral devices, *id. col.11 ll.2-4*. The patent does not describe any other way for the hub device to perform the attachment and communication steps required by the asserted claims. It contains no disclosure of how the claimed network would function if the hub had to communicate with peripheral devices using unspecified and potentially proprietary addresses which had been assigned to those devices at the time of manufacture. To expand the definition of MAC address to include addresses assigned at the time of manufacture would permit the '129 patent to encompass a network that the inventors neither contemplated nor adequately described. *See Nautilus, Inc. v. Biosig Instruments, Inc.*, 134 S. Ct. 2120, 2124 (2014) ("[A] patent is invalid for indefiniteness if its claims, read in light of the specification delineating the patent, and the prosecution history, fail to inform, with reasonable certainty, those skilled in the art about the scope of the invention."); *MagSil Corp. v. Hitachi Global Storage Techs., Inc.*, 687 F.3d 1377, 1381 (Fed. Cir. 2012) ("The specification must contain sufficient disclosure to enable an ordinarily skilled artisan to make and use the entire scope of the claimed invention at the time of filing.").

Azure cannot have it both ways. If the term "MAC address" is properly construed to refer only to addresses assigned to peripheral devices by a hub device, then the accused products do not infringe. If, on the other hand, the term is broadly and unreasonably expanded to cover addresses assigned at the time of manufacture, then the asserted claims are invalid. *See MagSil*, 687 F.3d at 1381 ("[A] patentee chooses broad claim language at the peril of losing any claim that cannot be enabled across its full scope of coverage."); *Liebel-Flarsheim Co. v. Medrad, Inc.*, 481 F.3d 1371, 1380 (Fed. Cir. 2007) ("The irony of this situation is that [the patentee] successfully pressed to have its claims include a jacketless system, but, having

won that battle, it then had to show that such a claim was fully enabled, a challenge it could not meet.”).